2: Fortes E-5 (1934-1937) 1945
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to another, ranging from 25 inches to 45 inches per annum, but fluctuations occur from year to year in the same area. Erratic or abnormal rains may so disturb the cycle of food production as to subject a majority of the population to severe privation. The temperature in the vicinity of 10° 30′ N. latitude and 0° 30′ W. longitude varies from a minimum of about 70° F. to a maximum of about 93° F. A characteristic feature of the dry season is the harmattan, a hot parching wind laden with fine dust which blows from the Sahara, so strongly at times as to obscure the landscape in a haze which limits visibility to a few hundred yards. Heavy dew and mists cause the mornings to be chilly and bracing, so much so that the natives squat shivering round fires or remain indoors until the sun is high; from the forenoon until about 4 p.m. the sun blazes relentlessly through the faint haze; sunset ushers in a cool and balmy evening; and night brings a relatively marked drop in temperature. Violent nocturnal tornadoes from the east and north-east, accompanied by lightning and thunder, introduce the rainy season, during which the prevailing wind blows from the direction of the Gulf of Guinea, to the south and south-east. During this season the temperature remains fairly stable throughout the day. Though it is never as hot as in the hottest days of the dry season, the humidity makes it at times excessively oppressive. The peak of the rains comes in August–September. It rains so heavily then that many social activities are impeded. These conditions of vegetation and climate fundamentally influence the economy and the social life of the inhabitants of the Sudanese Zone.

This book is concerned with the population of a very small section of the Sudanese Zone, a part of the region drained by the Volta river system. The head-waters of this system lie in French West Africa. About 20 miles south of the international boundary between the Gold Coast and French Ivory Coast, which has been arbitrarily fixed to coincide approximately with the eleventh parallel N. latitude, the Red Volta flows into the White Volta. Between these two rivers, on the east and south respectively, and the Sissili river on the west lies an area, arbitrarily truncated on the north by the international boundary, comprising two of the most heavily populated administrative districts of the Gold Coast. The eastern third of this area constitutes the administrative district of Zuarungu, the remaining two-thirds the district of Navrongo. The Red Volta separates Zuarungu district from another administrative unit, Kusasi, and the White Volta forms a natural boundary between it and the Mamprusi district, to the south of which lies the territory of the Dagomba.

As the following table[1] from the census of 1931 shows, the Zuarungu district is the most densely populated part of this area; and as the population tends to be concentrated in the centre and north, the actual density of settlement exceeds the figures given. In some localities this is reflected

[1] See *Appendices containing Comparative Returns and General Statistics of the 1931 Census*, Gold Coast, 1932, p. 3; and Cardinall, A. W., *The Gold Coast*, 1931, Population Map, p. 156. Mr. Cardinall remarks (p. 123) that 'A majority of the census officers were of opinion that the figures collected by them are lower than they should have been by from 2 per cent. to 10 per cent.'—a contingency inevitable in a country which is for the most part still pre-literate.

2: Fortes E-5 (1934-1937) 1945
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in serious soil erosion due to over-cultivation and in the diminution of uncultivated bush land, so that firewood and other sylvan products cannot be found within six or more miles of the settlements.

District	*Area*	*Population*	*Density per sq. mile*
Navrongo . .	1,551	120,870	77·96
Zuarungu . .	781	133,981	171·55
Kusasi* . .	1,227	151,715	123·64
Mamprusi* .	2,719	61,520	22·62
Dagomba* . .	12,257	191,956	15·66

* Partly in Mandated Territory of Togoland.

In spite of the general similarity of climate and vegetation in the Sudanese Zone, local variations produce significant ecological differences. This is shown in the Northern Territories of the Gold Coast by the differences in agriculture north and south of the Gambaga scarp. The steep scarp marks both a geological and an ecological line of division. South of it the rock formations are of sandstone and shale, north of it granite, quartz, and greenstone predominate. South of the scarp a form of shifting cultivation is customary, and yams (*Dioscorea* spp.) are grown on a large scale side by side with millet (*Pennisetum typhoides*, var.), guinea corn (*Sorghum vulgare*), and maize (*Zea mays*). North of it yams will not grow easily and cereal crops form the staple food supply.[1]

The relative scarcity of population in the yam-growing districts compared with the congested areas north of the White Volta may be due to unknown historical and cultural factors, but endemic diseases have undoubtedly impeded population growth. While malaria, yaws, and leprosy, to mention only the commonest enemies of native health, are widespread throughout the Northern Territories of the Gold Coast, sleeping-sickness is also endemic throughout the Mamprusi and Dagomba districts. In the central sectors north of the scarp sleeping-sickness occurs only sporadically near the rivers.

Topographical differences also appear to influence the distribution of population. The high plateau which stretches from the White Volta northwards is more suited for permanent habitation than the low-lying flats which make up the greater part of Mamprusi and Dagomba. In the wet season they turn into quagmires; in the dry season they are arid tracts seriously short of water-supplies. North of the White Volta numerous streams and small rivers combine with the relatively greater elevation to drain the plateau effectively during the heavy rains; and though surface water becomes scarce in the dry season, shallow pits generally provide sufficient water for normal needs.

The district of Zuarungu is a typical portion of the Trans-Volta plateau. A number of bouldery hills from 100 to 500 feet high are scattered over its undulating surface. The most conspicuous are the Tong Hills, a small range stretching for about four miles just north of the river. It adds an

[1] Cf. Fortes, M. and S. L., 'Food in the Domestic Economy of the Tallensi', *Africa*, ix. 2, 1936; and Lynn, C. W., op. cit.

2: Fortes E-5 (1934-1937) 1945
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attractive touch to an otherwise uninspiring landscape. A fringe of uninhabited bush, the home of a fair amount of game, follows the course of the two Voltas. From the Tong Hills the area of close settlement and perennial cultivation spreads out like a fan to the west, north, and east. Generally speaking, settlement is relatively sparse and recent along the periphery of this area, except in the north to north-west segment, and densest and most ancient in the middle.

The Northern Territories of the Gold Coast have been under effective Government control for about twenty-five years. From the first efforts were made to develop modern communications. At the present time a main road, suitable for motor traffic, connects Bawku in Kusasi district, the northernmost administrative station, with Tamale, the capital of the Northern Territories, 145 miles to the south, and continues from there to Kumasi in Ashanti, another 220 miles. Branches link it with the principal Government stations in the Northern Territories. This road system was maintained, until recently, only for essential services in the wet season, but was always passable in the dry season. In 1936 large-scale works were undertaken to make it a permanent highway. Head carriage and footpaths still remain the only means of local transport and communications. About 50 miles of this road system traverse the Zuarungu district, the administrative head-quarters of which is at Zuarungu (Talni, *Zuwaruŋ*) on the central road.

The people we are concerned with in this book occupy less than half of the Zuarungu district. Their country, which, for convenience of reference may be called Taleland, embraces most of the southern half of the district between the two Voltas and the western boundary. On the north it can be demarcated only by an arbitrary boundary which extends in a wavy line from Zuarungu due east to the river. A typical section of the district, Taleland includes the Tong Hills, the vicinity of which harbours the densest and oldest settlements of the country. Its total population, according to the 1931 census, numbers about 35,000. Nearly a third of it is concentrated within a radius of two or three miles of the Hills. I estimate the total area of Taleland at about 300 square miles, which would imply an average population density of approximately 100 to the square mile, though the actual density of settlement in the inhabited areas must be considerably higher. Thus Taleland is thickly populated by African standards.

Cultural Affinities of the Tallensi

Delafosse, in his monumental survey[1] of the peoples of the western Sudan, distinguished five 'families' by ethnological and linguistic criteria. His largest division, the Voltaic family, comprises the tribes inhabiting the basin of the Volta rivers, from approximately 9° 30′ to 14° N. latitude.[2] Delafosse subdivides the Voltaic family into seven branches, one of which, the Mossi group, includes all the peoples living between Ouagadougou in the French Upper Ivory Coast and Salaga in the Gold Coast.

More recent research has not invalidated Delafosse's broad classification.

[1] Delafosse, M., *Haut-Sénégal-Niger*, 3 vols., 1912.
[2] Op. cit., i, pp. 115 ff.

2: Fortes E-5 (1934-1937) 1945
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101 in the culture of this area. A member of one social group identifies another social group or individual by comparison or contrast with his own social identity, and in terms of the most inclusive grouping which suffices to identify the latter unambiguously. The exact identification is relative to the frame of reference common to both parties.

101 Wherever he may come from in Taleland, a man calls himself a Talǝŋ
304 in contrast to non-Tallensi, citing differences of speech and custom. Thus, female circumcision is practised over a large part of the Northern Territories. All the Tallensi think it a repugnant custom, and say: 'We Talis don't do that—it is a custom (lit. work) of the Gǝris (*Tam Talis pu et lan—Gǝris tuomǝr nla*).' But Tallensi from different parts of Taleland draw almost equally sharp distinctions amongst themselves, using the same technique of contraposition.

361 To understand this we must consider the spatial distribution of Tale
103 settlements. For Tale social structure is inseparable from the spatial
133 relations of social units. We shall start from Tongo (Talni, *Tɔŋ*), about a
621 mile from the foot of the hills (see sketch-map, p. 15), one of the most thickly populated settlements in the country and regarded by the Administration as the capital of Taleland. Typically of this part of the country, Tongo and the settlements adjacent to it on all sides—Ba'ari, Zubiuŋ, Zoo, Soog, Wakii, and Gbeog—form a continuous area of habitation thickly studded with homesteads. Beyond this aggregate stretches another ring of settlements indistinguishably continuous with it at many points. On one side of Ba'ari live its Gǝre neighbours, on the other is Yaɣazuor, which is separated only by small hillocks and a block of bush-farms from Kpatia, Kpal, and Gbee. The farthest homesteads of Zubiuŋ lie against a low bulge in the plain from the bouldery tip of which one looks down on Sɔk and Yamǝlǝg, a mile or two away. Zoo and Gbambee merge into one another and overlook Woo. Soog, Wakii, and Gbeog encircle the slopes of the Tong Hills and are separated from Tɛnzugu, the settlement in the fertile hollow embracing almost the entire summit, only by the ridge of enormous boulders which forms the crown. Gbeog overlaps Ka'ar, which is continuous with Gorogo, Sipaat, and Sii. These settlements climb right up into the gullies and amongst the boulders of the slope of the Hills and straggle out across the broad plain to blend with Dkoog. The homesteads of Sii curl round the nose of the Hills to mingle with those on the outskirts of Yinduur and Zandoya, on the other side below the rim of the Hills. A mile farther along, at the foot of the Hills on their eastern side, are the more scattered homesteads of Santeŋ, Teelǝg, Syɛk, and Wɔyar, separated from Tɛnzugu only by the brow of the Hills.

This compact block of settlements is barely separated from a similar block five or six miles north-east of the Hills which begins at Sawalǝg. Between Zoo and Yamǝlǝg lies a mile or so of stony hummocks, covered in parts with the low scrub which shows that it had been cultivated and then abandoned. This is where many people from Tongo and Zoo have their bush-farms. Yamǝlǝg occupies a shallow depression between hillocks.
361 Then comes a stretch of two or three miles of typical orchard bush before
103 the homesteads of Sawalǝg and Sie are reached. Thence a traveller can
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2: Fortes E-5 (1934-1937) 1945
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much as a quarter of a mile apart. The greater congestion of the older settlements is correlated with greater fragmentation of holdings, due to the greater length of time they have been continuously occupied.

The population of Taleland, as of the remainder of the trans-Volta plateau, appears to have been increasing steadily in the recent past. In the older settlements it is clearly excessive in relation to the available land and the level of technical skill of the natives. This is the opinion both of Government officials and of the natives themselves. The natives always say that shortage of cultivable land was the main incentive for the migration of young men to the peripheral 'bush' zone in the past; and the men who have come to settle permanently in the peripheral settlements during the last two or three decades always ascribe their move from their natal settlements to the same cause. Labour migration during the past ten or fifteen years has been much influenced by pressure of population on the land in the most congested areas.

These economic adaptations of the natives and their general standard of living, as well as the territorial distribution of such clans as Mosuor biis in Taleland, compel the inference that the population has been increasing for some time. But adequate statistics for measuring the present rate of increase in the population, or for establishing its trend in the past, are lacking.[1]

There are no clear-cut geographical features regulating the distribution of homesteads in most settlements. The location of water-supplies has no bearing on it, since Tale agriculture relies wholly on rainfall, and domestic requirements are a secondary consideration, and offer no difficulties in the wet season. Towards the end of the dry season the domestic consumption of water is cut to the minimum necessary for cooking and drinking. When water is scarce, the average Talən is content to go unwashed for weeks at a stretch. By the end of the dry season most surface supplies have vanished, and water is usually obtained from shallow pits, artificially deepened and enlarged from time to time by those who use them. These pits are regular water-holes (*buləg*), utilized solely for that purpose throughout the year. A large settlement has several, situated in the dry beds of what are strong streams (*koləg*), or in the depressions (*bo'og*) which become swamps and pools during the rains. A water-hole generally serves the needs of the homesteads within a radius of about a quarter to half a mile. But at times of acute shortage the women and girls may have to go a mile or more to fill their water-pots.

Variations in elevation influence the scatter of homesteads to some extent. Inured though they are to the discomforts of their climate, the Tallensi prefer to build on high ground if possible. Thus, in the older settlements, homesteads tend to cluster closer together where there is a rise in the ground, and to be few and far between where there is a de-

[1] Reliable reproduction rates, either for the Northern Territories as a whole or for Taleland in particular, cannot be calculated from the data given in the abstract of the census of 1931, and there are no other official statistics, published or unpublished, which could be used for this purpose. My own exiguous demographic data suggest that the population of the older Tale settlements is increasing, though not steeply.

2: Fortes E-5 (1934-1937) 1945
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pression liable to flooding in the rainy season. The people of the Tong Hills consider themselves to be particularly fortunate in this respect. Their homesteads stretch densely across the slopes of the hills, and amid the great boulders and rocky piles of the summit. Singing the praises of their tiny fastness, they contrast it with the plain, where one is always ankle-deep in mud and slush during the rains and scorched by the sun in the dry season. On the hills, they say, a sheltered nook can always be found among the rocks, shady when the sun is most cruel, dry in the severest storm, where the children can play or the grown-ups sit and talk.

The Stability and Continuity of a Settlement

Stability and continuity are essential characteristics of a settlement. They are implied in the native concept of a *tɛŋ* (settlement) as both a definite locality and a fixed community. The ancient settlements have attained a very high degree of stability and continuity. The peripheral settlements are rapidly ceasing to be mere economic apanages to the older centres of habitation, and are taking on the form of permanent and stable units. Being still in process of organization, their structure is fluid compared with that of the ancient settlements, and the dynamic factors of Tale social structure sometimes appear more conspicuously in them than in the latter.

But the older settlements are by no means static. The bounds, the layout, and the internal constitution of a settlement alter continuously, if very slowly. Even in a single year one can see how processes of expansion and contraction, of segmentation and incorporation, are at work all the time. Whenever land changes hands by inheritance, or an office passes by succession, or a man achieves economic independence, a minor reshuffle in the collocation of homesteads takes place. The cumulative effects of these processes of slow but progressive readjustment are clearly exhibited in the contemporary structure of a settlement. They are documented in its constitution and layout, in the location of ancestral graves, the ownership of farm plots, and in ceremonial and political relations. Fixity of location and of the structural plan ensure the stability and continuity of a Tale settlement.

Topographical Distinctions and the Natives' Knowledge of Natural History

Precise local orientation is essential in the economic activities and social relations of the Tallensi. Place-names are often derived from prominent topographical or geographical features. Thus, Tɛnzugu means the head (*zug*) or highest part of the country (*tɛŋ*), Yayazuor means 'perched on a hill', and many other place-names are popularly believed to be corruptions of topographical or spatial metaphors. Within a settlement topographical variations are distinguished by terms like *tɛŋr*, the lower part (the locative of *tɛŋ*, here in the sense of 'ground'), and *saazugu*, the higher part (lit. head-high, or high up). Conspicuous patches of low-lying land, hillocks, rock piles, ditches, water-holes, streams, &c., are named, and are very often sacred spots. The name may indicate peculiar qualities of the soil, prominent trees, or other landmarks formerly or still

2: Fortes E-5 (1934-1937) 1945
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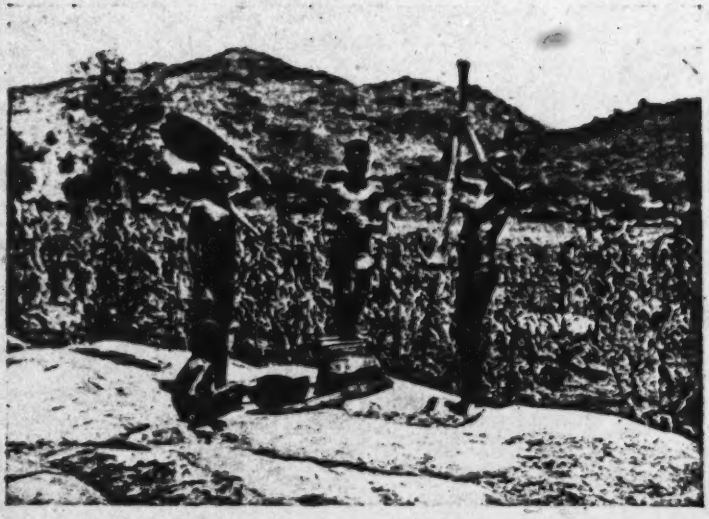

(*a*) A large boulder in the middle of a settlement forms a natural mortar where young girls go to stamp guinea corn.

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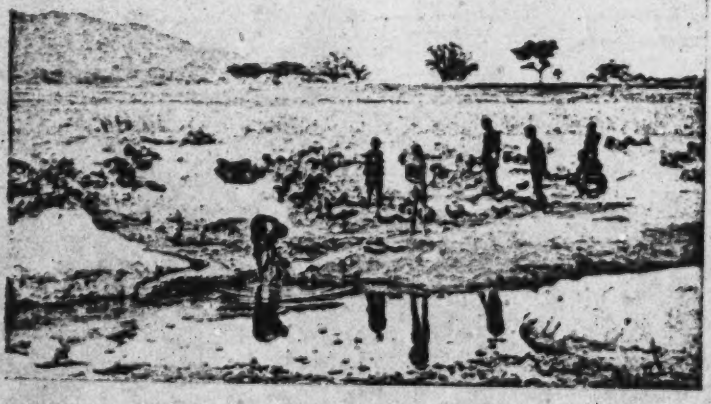

(*b*) Women at a waterhole in the early rainy season. This waterhole serves homesteads within a radius of over a quarter of a mile.

[facing p. 176]

2: Fortes
131, 133, 361, 487, 778, 764, 621

FE11 Tallensi FE11

[Chart of sections of end-map:

A	B	C	D
E	F	G	H

2: Fortes E-5 (1934-1937) 1945
FE11 Tallensi FE11

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MAP OF PART OF TON

Conventional Signs

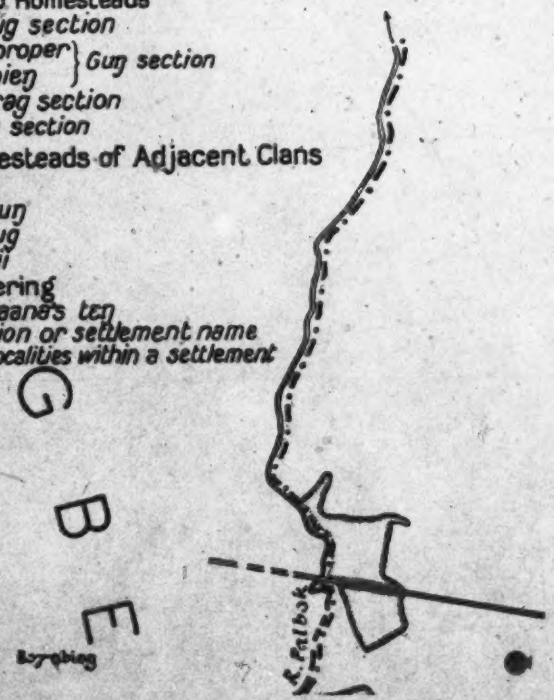
- Government roads (dry season)
- Major footpath
- Minor footpath
- Rainy season stream, dry season ditch
- Rainy season rivulet
- Tendaana's territory (tɛŋ) boundaries
- Farm boundaries
- Swampy patches (rainy season)
- Graves
- Tree
- Sacred Groves
- Water holes

Social Divisions
(each circle is one homestead)

Tongo Homesteads
- Puhug section
- Gun proper } Gun section
- Dekpien }
- Kuoreg section
- Seug section

Homesteads of Adjacent Clans
- Zoo
- Zubiun
- Gbizug
- Wakii

Lettering
- SOOG Tendaana's tɛŋ
- Puhug Section or settlement name
- Teŋr Sub-localities within a settlement



[End-map (A)]

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[End-MAP (B)]

2: Fortes E-5 (1934-1937) 1945
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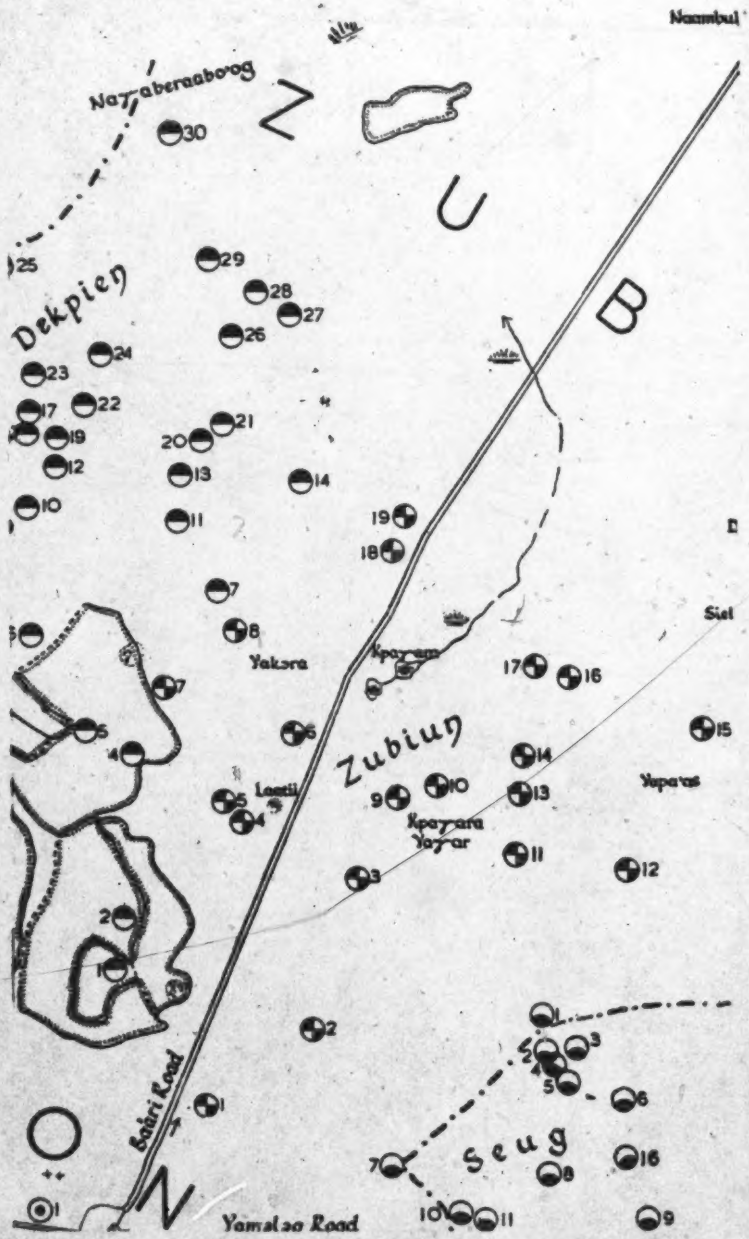
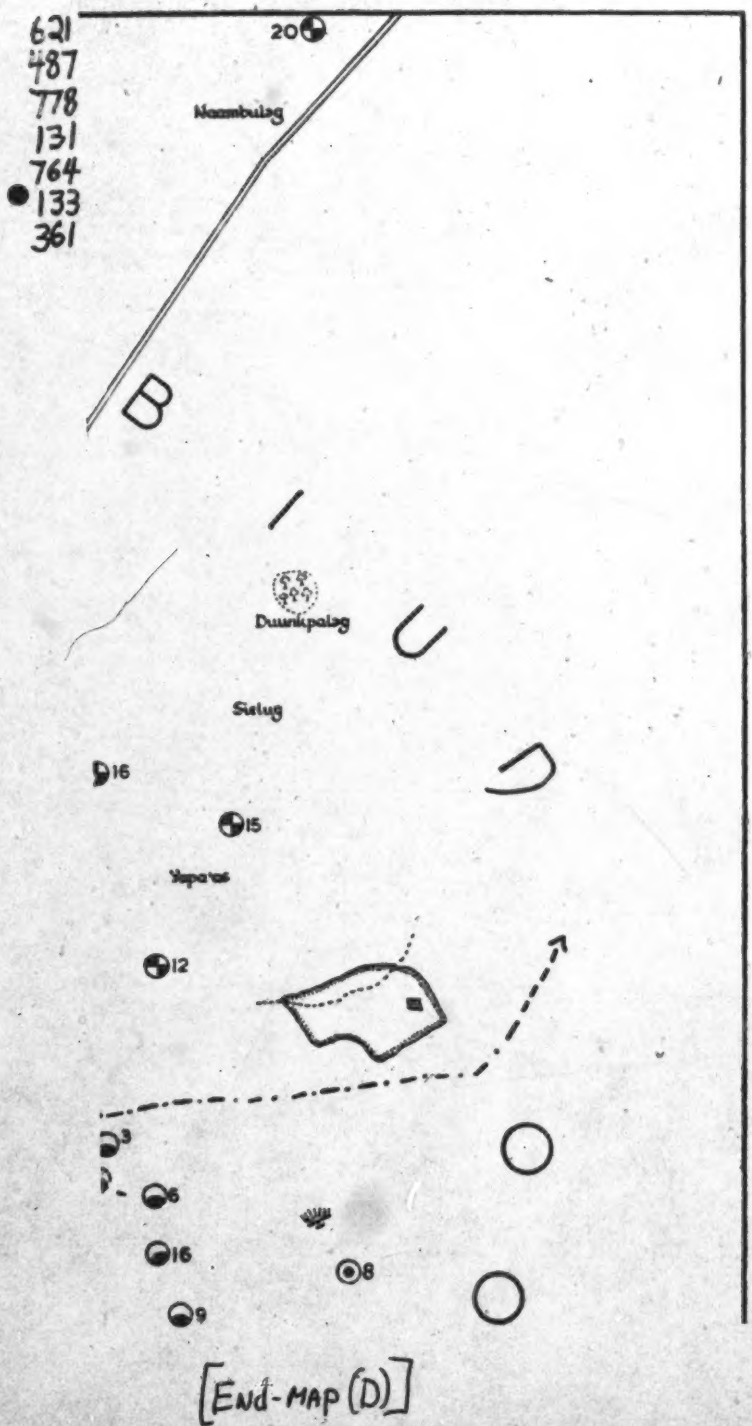


[End-MAP(C)]

2: Fortes E-5 (1934-1937) 1945
FE11 Tallensi FE11



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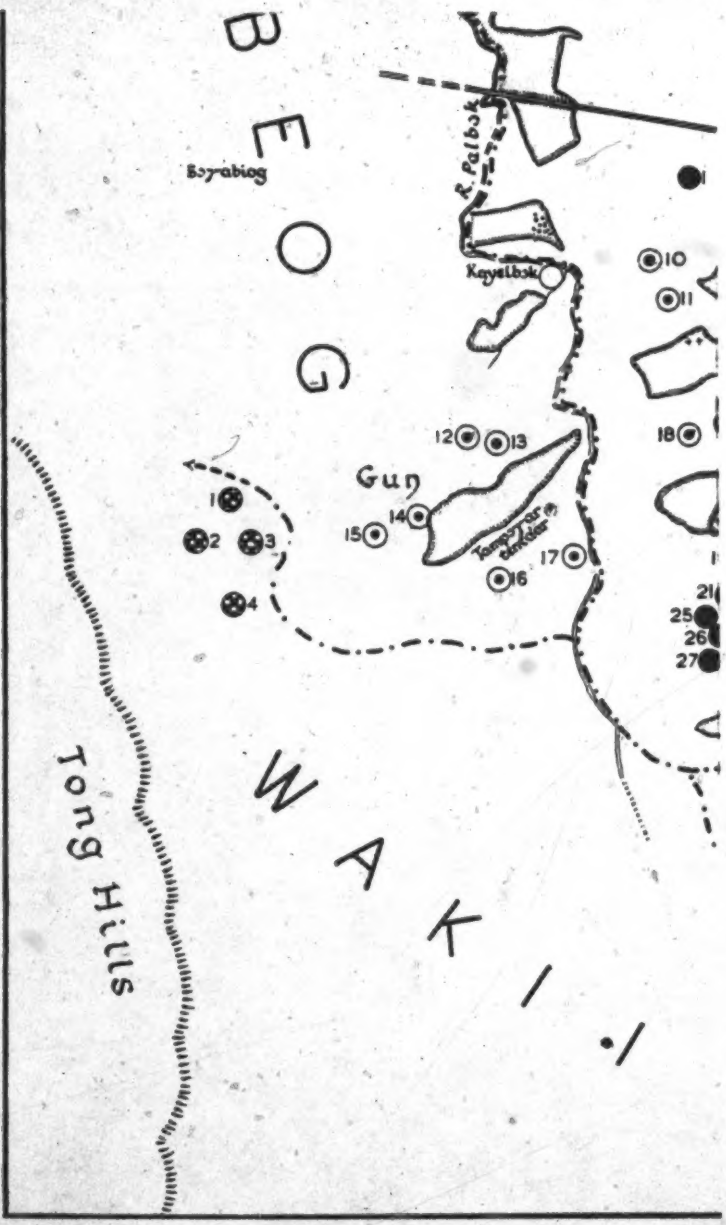

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The map includes the whole territorial extent of Tongo proper (*Tɔŋ-Naŋ*) boundaries. It shows *all* the homesteads of Puhug section and Guŋ proper homesteads on the outskirts of the other sections (i.e. in Kuorəg, Seug, and The map also shows *all* the homesteads of Gbizug and of the Yakəra sec

[End-Map(E)]

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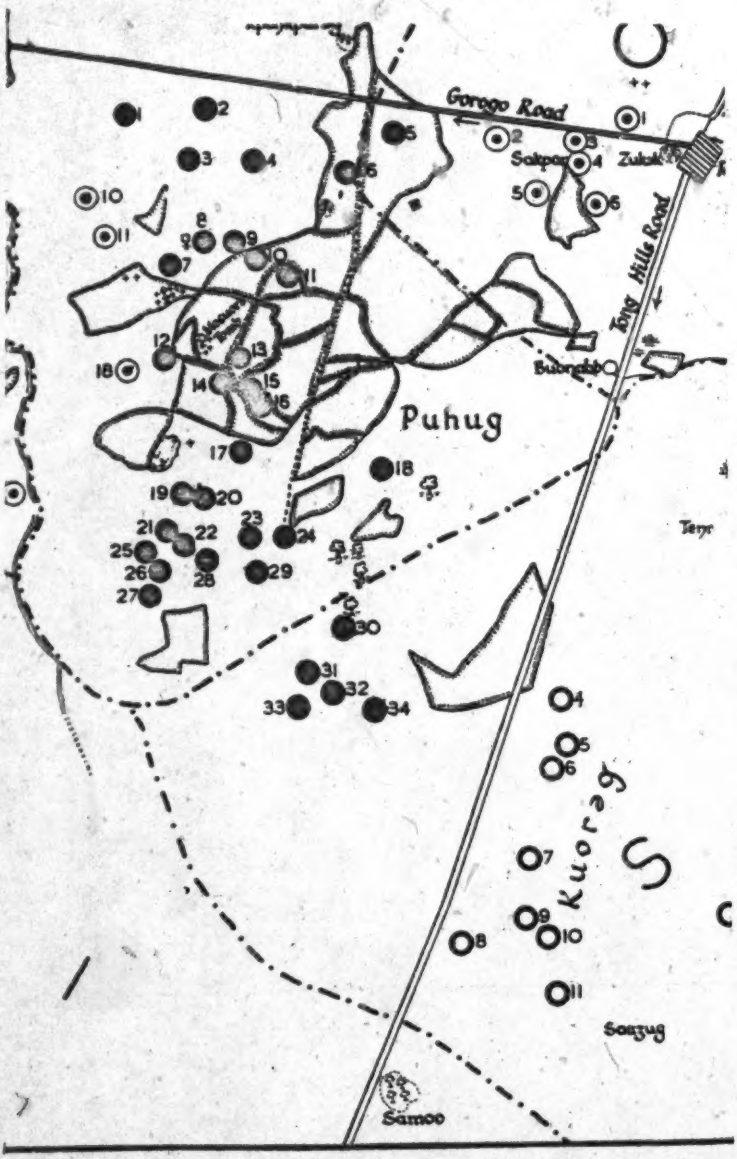

SKETCH MAP OF TONGO AND PARTS OF

o proper (*Tɔŋ-Nayiri*) but not all the homesteads within its social
n and Guŋ proper (*Guŋ* on the map) but leaves out about a dozen
Kuorag, Seug, and Dekpieŋ).
f of the Yakɔra section of Zubiuŋ. It shows most of the Zubiuŋ-

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[End-MAP (F)]

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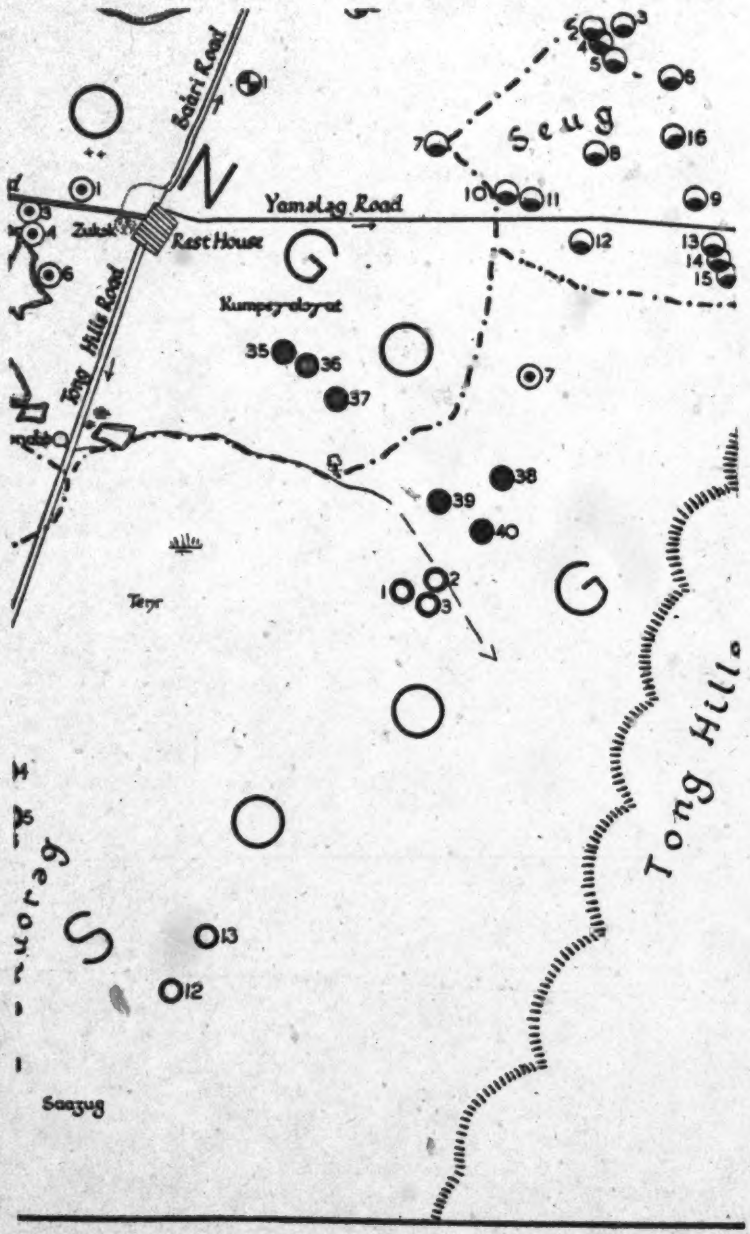
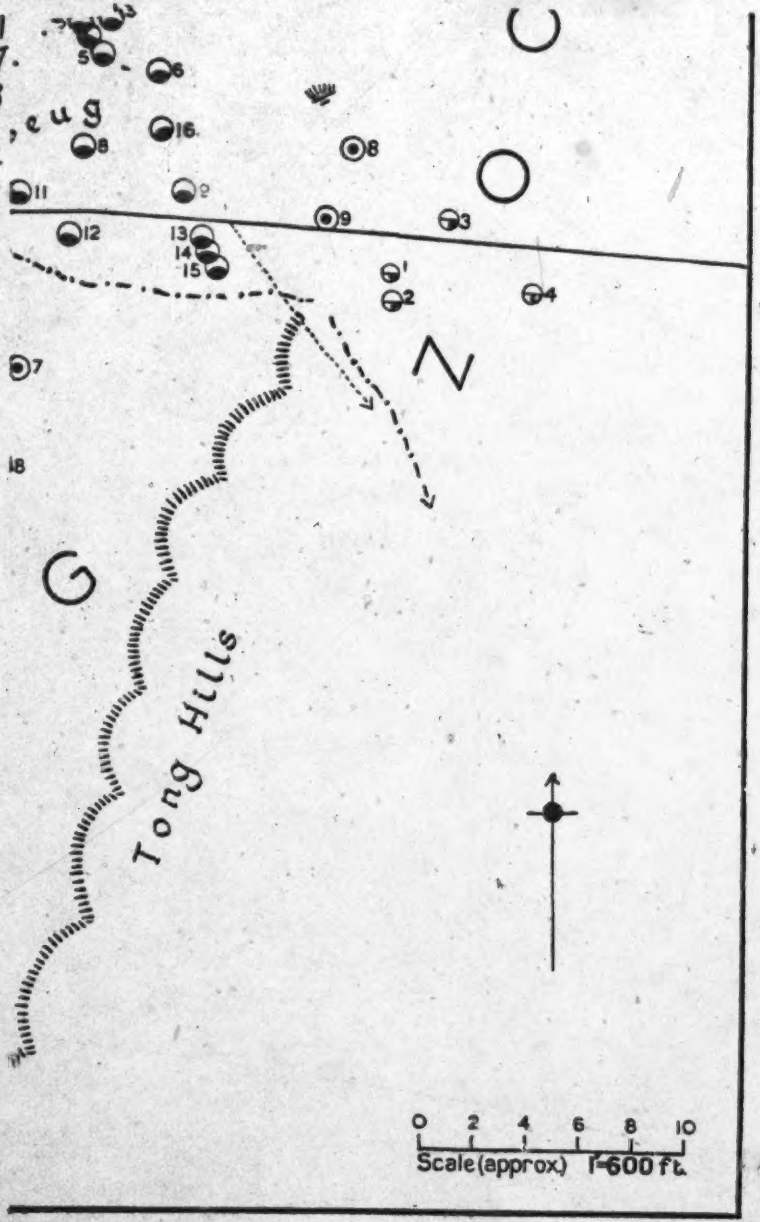


PARTS OF ADJACENT SETTLEMENTS

nal Kpayara yayar homesteads, leaving out two or three on the outskirts,
en few Wakii and Zoo homesteads.

The Farm Boundaries shown indicate the situation of only a small
n- covering the map with crosses, only a few of the founding ancestors' gi

[End-MAP (G)]



ITS

r three on the outskirts, but no Zubiun-Yapaas homesteads. It shows only a

situation of only a small selection of Tongo home farms. Similarly, to avoid he fo ding ancestors' graves have been marked.

[End-MAP (H)]

6: Fortes E-5 (1934-1937) 1937 FE11 Tallensi FE11

121 each within the context of the particular type of social situation is specific to it and can be determined only from the analysis of the situation itself. It may differ considerably from its "institutional function" in relation to the culture as a whole. Thus the rules of exogamy viewed in relation to the entire social organization of a people may demonstrably serve to emphasize and preserve the integrity of an unilateral kinship group. But in a particular situation, a man barred from marriage with a woman he desires may enter into an illicit sexual intrigue with her, which may lead to dissension within the kinship group. In such a case the "proximate function" of the rules of exogamy appears to be the very contrary of their "institutional function." This is an hypothetical instance; but it will suffice to illustrate what we mean when we say that the components of any type of social situation are inter-related in a manner specific to it or that it exhibits a definite structure. The aim of the present paper is to analyze the structure of a situation which recurs with some frequency in the life of a tribe recently visited by the writer.

226 221 [805] Among the Tallensi, a tribe of the Northern Territories of the Gold Coast, the communal fishing expeditions which take place every year are events of this kind. They extend over a period of about a month, between the close of the dry season and the commencement of the heavy rains. During this month which coincides with most of the native lunar month *Sigkpeŋ* ("Dry rains"), and the European month of April, rain falls sporadically (five times, at varying intervals, in 1934, a dry year) but sufficiently for the sowing of early millet and some of the minor crops. Sowing demands the concentration of all energies of the family for a day or two after a fall of rain; then it is discontinued until the next fall of rain. Besides sowing, other technological and economic activities compete with fishing during this month. House repairs and rebuilding are still in progress and of course the markets, which take place on two days out of three within the tribal area, are in full swing. All these activities are equally shared by men and women, assisted by the children of both sexes.

226 262 Fishing therefore is not an activity of an economic off-season. Its calendrical incidence depends primarily on the technique employed, which is suitable only for shallow pools; and the pools are shallowest at the end of the dry season. It is, also, only indirectly correlated with the diminution in food supplies which becomes general during the "dry rains", since fish, like meat, is valued as a delicacy and never as a substitute for the staple cereal foods. In any case, the catch is usually too small to influence the economy of food supplies materially. Nevertheless, the luxury value of fish furnishes one of the main inducements to join the fishing expeditions.

226 But the greatest attraction of these fishing expeditions to young and old, men and women, is the excitement and thrill they provide, the immediate pleasure of participation in a communal enterprise with the possibility, however remote, of some gain.

133 226 The pools fished lie in the bed of the White Volta River. When the rains cease the water level gradually sinks till eventually only a series of pools divided from one another

6: Fortes E-5 (1934-1937) 1937 FE11 Tallensi FE11

by dry stretches of sand remains. The river during the rains is simply known as *mɔyar*, "river"; but each pool has a name extended to the corresponding division of the river banks on both sides.

The end of the dry season and the commencement of the agricultural season receives social affirmation in a great ritual festival the *Gɔlib*, celebrated by one group of Tallensi clans. The series of rites and ceremonies includes a communal and ritual fishing of a pool *Gɔlimbiuŋ*, dedicated to *Gɔlib* (not in the Volta). The fishing itself is a ritual performance in which the size of the catch counts for very little. But this inaugurates the season of the utilitarian fishing expeditions, none of which may precede the fishing of *Gɔlimbiuŋ*. The magical intention of *Gɔlib* is to ensure the fertility of crops, women, and livestock, success in all food-getting enterprises, security from danger, disease and death. Fishing is frequently mentioned in the exhortations addressed to the ancestor spirits during the *Gɔlib* rites. The *Gɔlib*, however, is more in the nature of a general blessing than of specifically efficacious magic.

Some ten to fourteen days after the close of *Gɔlib* the first of the communal fishing expeditions takes place. Every owner decides for himself the day on which he wishes to fish his pool. Thus it often happens that two or more fishing expeditions to different parts of the Volta occur on the same day. During the month I recorded the occurrence of ten expeditions; but as many more certainly escaped my notice. I accompanied three of these expeditions.

An impending fishing expedition is announced through the two main channels customary for the publication of such events. A day or two in advance, after darkness falls, the owner causes it to be cried (*tuol*) from the house-tops of his settlement. The news subsequently spreads throughout the country, from mouth to mouth. But alternatively or in addition, he employs an even more effective means of publicity, the market. Members of his family and neighbours are sent on market day to inform the friends and acquaintances they meet. Soon it is known to every person in the market, to which people throng from every quarter of the Tallensi and neighbouring tribal areas.

A message may also be sent to the *Tɔŋnaana*, the chief of highest rank in the Tallensi country; but this is an act of deference not a political obligation, and is observed principally by the minor chiefs who have a clan relationship with Tongo. So also the chief of Kurugu, Paramount Chief of the division, is usually apprised.

So much for the economic, seasonal and public context of fishing. On the appointed day ceaseless processions of men, women, adolescent boys and girls, and even children of 9 and 10 years, converge upon the selected pool. Some of them come from eight or nine miles away by winding paths through low but rough and sparsely inhabited bush. The men and boys carry bows and arrows, spears and axes, as well as their fishing nets, partly as a precaution against meeting with a hyena or leopard or some game, partly out of habit. The women, balancing their fishing baskets on the head, set out with the men. But as the procession swells they tend to drop behind to join their fellows, and come along

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NORTH MAMPRUSI, GOLD COAST.

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137 either as food or medicine, have been allowed to remain. The most important of these are :—

Adansonia digitata	Acacia albida
Butyrospermum parkii	Acacia sieberriana
Parkia filicoidea	Acacia arabica
Diospyros mespiliformis	Cieba pentandra
Sterculia tomentosa	Bombax buonopozense
Ficus gnaphalocarpa	Lannea acida
Tamarindus indica	Sclerocarya birrea
Celtis integrifolia	Vitex cienkowskii

Other trees of less economic value, which have been removed to make way for farming, or to provide firewood and building timbers, can be seen well represented in "ju-ju groves", "tengani" (Nankani), and on the margins of cultivation. The most important of these are :

Combretum spp.	Acacia seyal
Terminalia spp.	Acacia senegal
Anogeissus leiocarpus	Sarcocephalus russegeri
Bauhinia spp.	

Grasses.

All land which is not under cultivation carries a covering of grasses which is usually burnt-over annually, in the dry season. The composition of grass land varies according to soil, situation, and conditions of burning and grazing. Large areas of exposed land carry only a thin cover of Heteropogon contortus. On better soils Pennisetum polystachyon, "chima" (Nankani), is found on roadsides and between farms; it is valued highly as a fodder grass. Other grasses commonly occurring on waste places in cultivated areas are: Dactyloctenium aegyptium, Chloris spp., Aristida ascensionis, and Eragrostis spp. In "bush areas" Adropogon gayanus and Cymbopogon proximus are common.

Topography.

133 241 North and South Mamprusi are separated by a steep escarpment. This is an important dividing line for it marks the change from the standstone and shale rock formations in the South, to granite, quartz, and greenstone formations in the North; it is also roughly the Northern limit of yam cultivation, associated with methods of "shifting" cultivation; and the Southern limit of early

7:Lynn G-5 (1932-1936) 1937 FE11 Tallensi FE11

millet and "fixed" cultivation. The Red and White Volta Rivers rise in French Territory and flow south through North Mamprusi until they reach the foot of the scarp; here they join, and flow westward. With their tributaries the Voltas drain the whole district; they are fed mainly by surface water and from being practically dry in the dry season, they become deep, swift-moving rivers in the rains, flooding their banks and doing considerable damage to road communications. 133 241

The surface of the country is gently undulating and outcrops of granitic rocks are common. Small stony hills occur sporadically and a definite range, the Tong Hills, runs north-east through the district from Shia in Zuarungu Area, almost to Bawku in Kusasi Area. The average height of the district is between 600′ and 700′ above sea level.

Soil.

The soils of North Mamprusi are mainly derived from granodiorite. They are greyish-brown in colour and contain a high proportion of sand and gravel which makes them course in texture. Ridges of quartz occur in some places and in their vicinity the soil is very stony. In valley lands the soil is heavier, due to an accumulation of finer particles washed down from the surrounding slopes; this soil becomes very wet in the rainy season and is seldom cultivated, although it is capable of growing excellent crops of rice. Odd patches of laterite stone are found but they are not common. Parts of the Tong Hills are composed of greenstone, a rock which weathers to a rich red colour and gives rise to a fertile but exceedingly stony soil. In cultivating, the people shift the stones into contoured heaps against which the soil packs forming terraces; examples of these can be seen around Dutsi, Zanlerigu, and Nangodi. In the middle of the rainy season—July, August, and September—the water-table rises rapidly and large portions of the district become water-logged. 134

Soil Erosion.

Close arable farming with no enclosure of fields, together with the undulating surface of the country, the open nature of the soil, and the practice of burning almost every particle of vegetal ground cover during the dry season, result in very serious sheet erosion of the soil, particularly at the beginning of the rains; streams and rivers are darkly coloured by the matter carried away in suspension. The resulting loss of fertility is considerable and the stony nature of the soil is accentuated, making cultivation more